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Certified by

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No.

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100603

INVENTOR(S)

Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
Robert J.	Sheffler	Morganville NJ
Charles	Chang	Wayne NJ

☐ *Additional inventors are being named on the ___ separately numbered sheets attached hereto*

TITLE OF THE INVENTION (280 characters max)

LIQUID PRODUCT APPLICATOR

Direct all correspondence to: **CORRESPONDENCE ADDRESS**

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ENCLOSED APPLICATION PARTS *(check all that apply)*

☒ Specification *Number of Pages* 8

☒ Drawing(s) *Number of Sheets* 2

☐ Application Data Sheet. See 37 CFR 1.76

☐ CD(s), Number

☐ Other (specify)

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT

☒ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check or money order is enclosed to cover the filing fees

☐ The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number:

☒ Payment by credit card. Form PTO-2038 is attached.

FILING FEE AMOUNT ($) 80.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted

SIGNATURE John H. Crozier

TYPED or PRINTED NAME John H. Crozier

TELEPHONE (203) 375-9118

Date 10/02/03

REGISTRATION NO. *(if appropriate)* 30,371

Docket Number: 363-103

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

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PATENT

363-106

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re

UNITED STATES PROVISIONAL PATENT APPLICATION

Of

ROBERT J. SHEFFLER and CHARLES CHANG

Relating to

LIQUID PRODUCT APPLICATOR

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to liquid product applicators generally and, more particularly, but not by way of limitation, to a novel liquid application brush that permits both application and combing of applied liquid product with a single brush.

Background Art

The present invention is applicable to mascara and similar liquid products when the mascara serves a dual purpose.

Typically, an application brush has a round rod or stem that passes through a wiper having a circular opening in the center thereof that wipes off the product from the rod or stem of the applicator brush. The wiper also wipes off excess product from the brush. The brush itself is typically a spiral wound brush or it could also be a brush head, a flocked top, or other brush type. The rod is round so that it can rotate within the wiper when the top of the applicator is screwed onto or screwed off of the container of liquid product.

In the case of mascara, for example, the product is very viscous and tends to clump because of its high viscosity. In this case, one needs to use a separate mascara brush to comb out the clumped mascara clinging to the eyelashes after it is applied. This requires that two separate brushes be used – one to apply the mascara to the eyelashes and the other to brush out clumped mascara, so as to separate the eyelashes and prepare them for a more uniform distribution of the product. This also requires that the application brush be set aside or replaced in the container – requiring additional effort on the part of the person applying the liquid product.

Accordingly, it is a principal object of the present invention to provide a liquid applicator brush that can be used both to apply product and to comb the

product once it is applied.

It is a further object of the invention to provide such a liquid applicator brush that is easily used by a consumer and that requires no additional effort on the part of the consumer.

It is an additional object of the invention to provide such a liquid applicator brush that can be economically and easily fabricated using conventional techniques.

It is another object of the invention to provide controlled amounts of product in specific areas on the brush for better delivery of product and enhanced utility.

Other objects of the present invention, as well as particular feature elements, and advantages thereof, will be elucidated in, or be apparent from, the following description and the accompanying drawing figures.

BRIEF DESCRIPTION OF THE DRAWING

Understanding of the present invention and the various aspects thereof will be facilitated by reference to the accompanying drawing figures, provided for purposes of illustration only and not intended to define the scope of the invention, on which:

Figure 1a is a front elevational view, in cross-section, of a liquid product applicator spiral wound brush, constructed according to the present invention, and inserted in a liquid product container.

Figure 1b is a side elevation view, in cross-section, of the liquid product spiral wound applicator brush inserted in a liquid product container.

Figure 2 is a top plan view of a wiper constructed according to the present invention.

Figure 3a is top plan view of a spiral wound applicator brush constructed according to one embodiment of the present invention.

Figure 3b is a top plan view of a spiral wound applicator brush constructed according to a further embodiment of the present invention.

Figure 3c is a top plan view of a spiral wound applicator brush constructed according to an additional embodiment of the present invention.

Figure 3d is a top plan view of a spiral wound applicator brush constructed according to another embodiment of the present invention.

Figure 4a is a fragmentary, side elevational view, in cross-section, showing the independent rotation of the brush with respect to the closure and fitment.

Figure 4b is a side elevational view, in cross-section, of another embodiment of the present invention, showing the independent rotation of an integral brush and fitment with respect to the closure.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Reference should now be made to the drawing figures on which similar or identical elements are given consistent identifying numerals throughout the various figures thereof, and on which parenthetical references to figure numbers, when used, direct the reader to the view(s) on which the element(s) being described is (are) best seen, although the element(s) may be seen on other figures also.

Figures 1a and 1b illustrate a liquid application device, constructed according to the present invention, and generally indicated by the reference numeral 10. Device 10 includes a liquid product container 20, a cap 22 shown apart from the container but which can be screwed onto the container, and a shaft or stem 24 having a brush structure 26 disposed surrounding its flattened distal portion 28 extending into the container and its proximal portion 30 extending into and contacting the interior of cap 22 and supported in the top by insert member 32. A flange 40 formed around proximal portion 30 of shaft or stem 24 engaging the top of insert member 32, fixedly disposed in cap 22, and the engagement of the proximal end of the shaft or stem with the inner surface of the cap secures the shaft or stem in place. Shaft or stem 24 passes through a complementarily shaped orifice 50 formed in the center of a wiper 52 frictionally and fixedly disposed in a conventional manner in the top opening of container 20. Brush structure 26 is typically nylon and spiral wound, although it can be of other materials and other construction, as noted above.

It can be seen from inspection of Figures 1a and 1b, that distal portion 28 of shaft or stem 24 is flattened in profile, that is, it is non-symmetrical with respect to the major axis of the distal portion. Also, it will be understood that, when cap 22 is screwed onto liquid product container 20, that shaft or stem 24 and, consequently, brush 26 will remain fixed with respect to the liquid product container, by virtue of the fact that distal portion 28 of shaft or stem 24 engages

orifice 50 in wiper 52, the latter being frictionally held rotatingly immobile with respect to the liquid product container 20.

Figure 2 illustrates wiper 52 with orifice 50 defined in the center thereof. Orifice 50 in this case is rectangular and cooperates with distal portion 28 of shaft or stem 24 which is likewise rectangular in horizontal cross-section. The rectangle shape shown for orifice 50 is the most rudimentary geometry and orifice 50 can assume other shapes, such as a triangle or an oval, provided that the orifice is non-symmetrical with respect to the major axis of distal portion 28 of shaft or stem 24 and is complementarily shaped with respect thereto. As is evident from Figures 1a, 1b, and 2, in order to maintain the cooperating registration of shaft or stem 24 and wiper orifice 50, when cap 22 is turned during opening and closing of container 20, the interaction between the cap and shaft or stem 24 is arranged to be free-wheeling, with a minimum of friction, so that brush structure 26 does not rotate when the consumer is applying mascara onto the consumer's eyelashes.

Referring now to Figure 3a, there is illustrated brush structure 26 rounded in shape and orifice 50. In this case, orifice 50 is shown in rectangular configuration, although, as noted above, orifice 50 could have other configurations, with appropriate changes in the brush structure. Here, brush structure 26 has areas of high densities of bristles 60 and 62 and areas of low densities of bristles 64 and 66. Thus, after bristle structure 26 passes through orifice 50, areas 60 and 62 will be heavily laden with mascara, while areas 64 and 66 will be wiped more cleanly by the orifice. The user, then, can apply the mascara using mascara laden areas 60 and 62 and then rotate brush structure 26 to use relatively clean areas 64 and 66 to comb out the mascara.

Figure 3b shows bristle structure 26 being rounded and having uniform density of bristles. However, after passing through orifice 50, areas 60 and 62 will be more laden with mascara, while areas 64 and 66 will have less mascara

and the latter can be used for combing out the mascara.

Figure 3c is similar to Figure 3a, except that bristle structure 26 has an oval shape, with the long axis of the oval being oriented parallel to the long axis of orifice 50.

Figure 3d is similar to Figure 3a, except that bristle structure 26 has a rectangular shape, with the long axis of the bristle structure being oriented parallel to the long axis of orifice 50.

Figure 4a illustrates, with reference to arrows "A" and "B", the independent rotation of shaft or stem 24 with respect to cap 22, so that the shaft or stem remains in a fixed position with respect to wiper 52 even when the cap is screwed onto or unscrewed off of liquid container 20 (Figures 1a and 1b).

Figure 4b illustrates another embodiment of the present invention, generally indicated by the reference numeral 10'. Elements similar or identical in function to those described above are given primed reference numerals. Here, shaft or stem 24' is flattened throughout and integral with a fitment 70 at the proximal end of the shaft or stem, the fitment being rotatingly captured in cap 22'. Thus, again by virtue of non-symmetrical shaft or stem 24' passing through a complementarily shaped orifice 50' in wiper 52', bristle structure 26' remains fixed with respect to liquid product container 20' even as cap 22' is rotated as it is screwed onto or unscrewed off of the liquid product container.

In the embodiments of the present invention described above, it will be recognized that individual elements and/or features thereof are not necessarily limited to a particular embodiment but, where applicable, are interchangeable and can be used in any selected embodiment even though such may not be specifically shown.

Spatially orienting terms such as "above", "below", "upper", "lower", "inner", "outer", "inwardly", "outwardly", "vertical", "horizontal", and the like, when used herein, refer to the positions of the respective elements shown on the

accompanying drawing figures and the present invention is not necessarily limited to such positions.

It will thus be seen that the objects set forth above, among those elucidated in, or made apparent from, the preceding description, are efficiently attained and, since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matter contained in the above description or shown on the accompanying drawing figures shall be interpreted as illustrative only and not in a limiting sense.

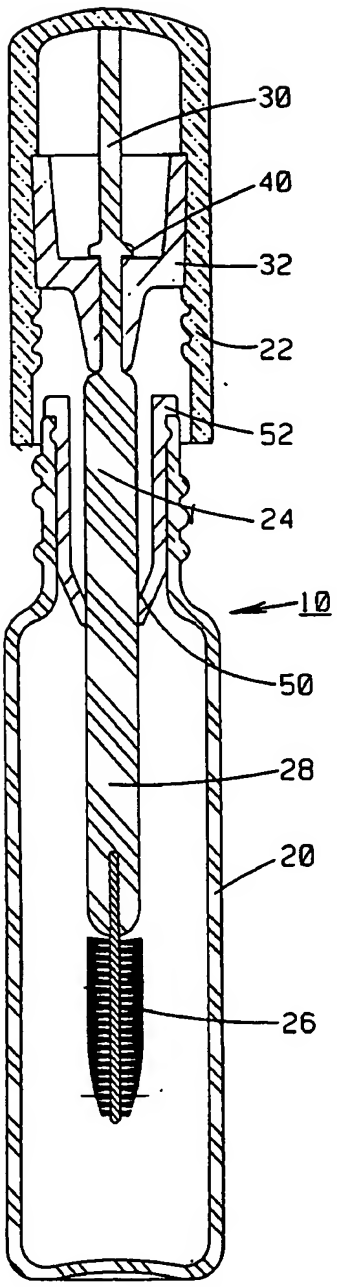

FIG 1a

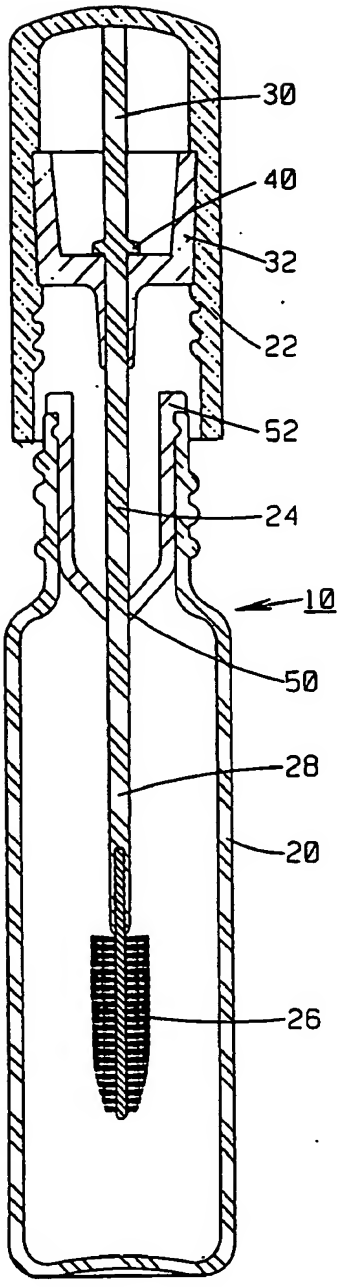

Fig 1b

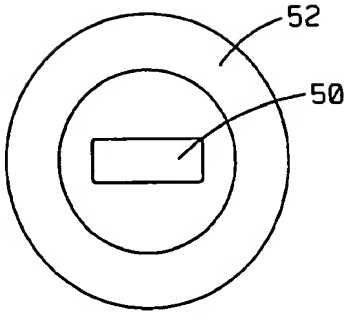

FIG 2

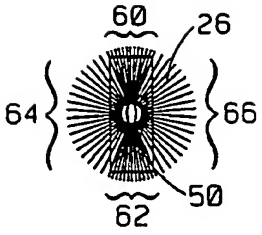

FIG 3a

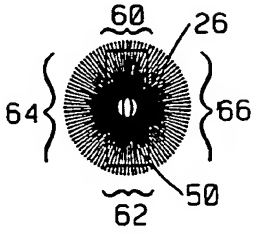

Fig 3b

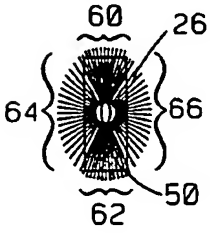

Fig 3c

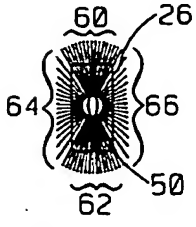

Fig 3d

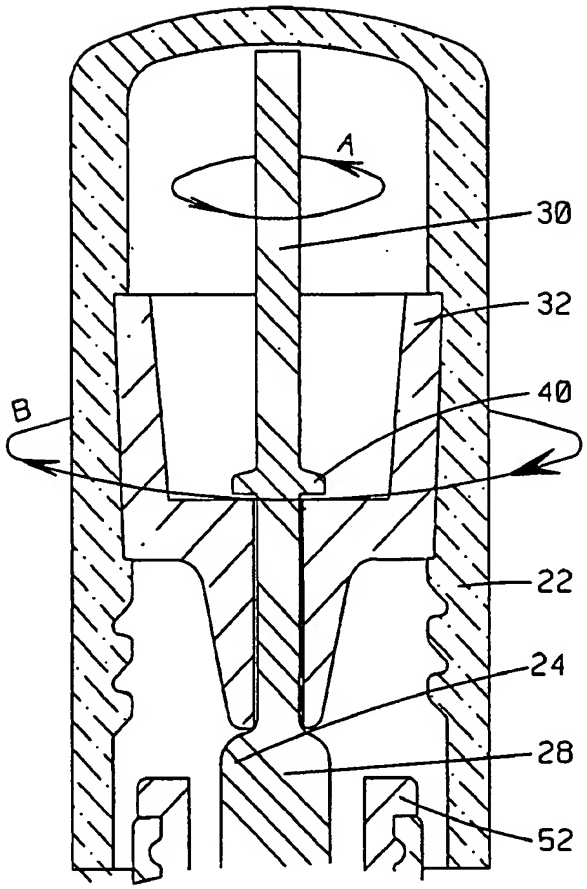

Fig 4a

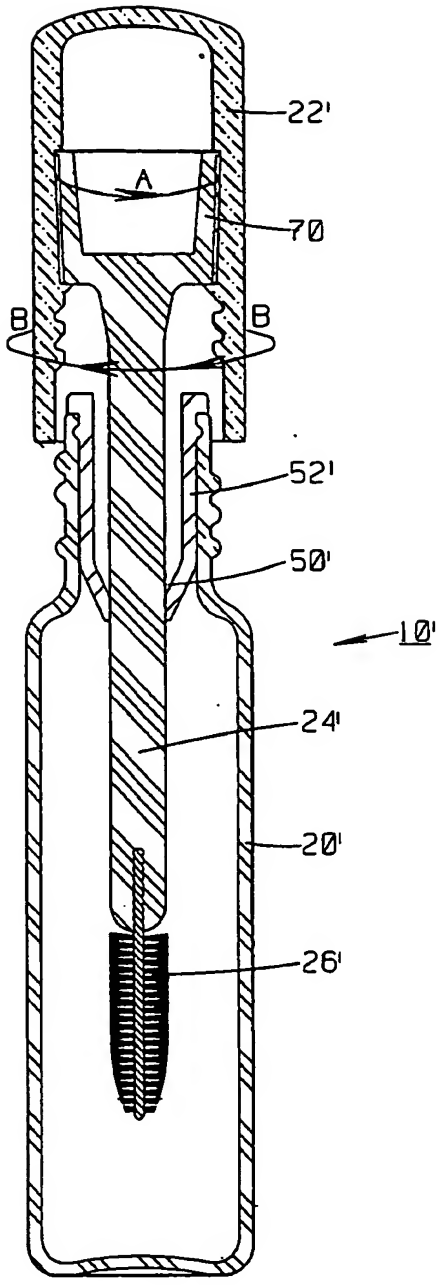

Fig 4b

Document made available under the Patent Cooperation Treaty (PCT)

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